

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number  
**WO 2004/057582 A3**

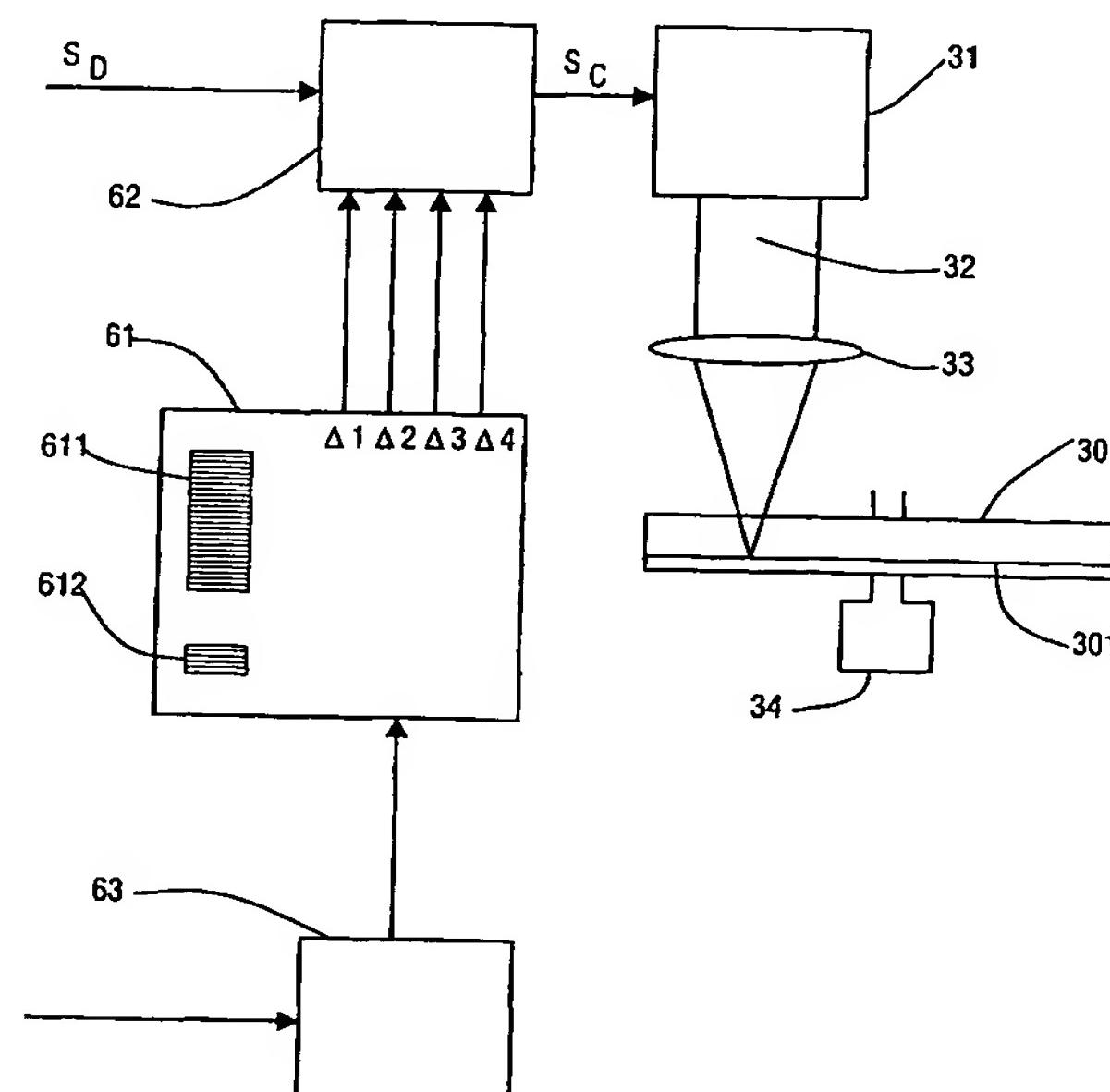
- (51) International Patent Classification<sup>7</sup>: G11B 7/00, 7/125
- (21) International Application Number:  
PCT/TB2003/005739
- (22) International Filing Date: 4 December 2003 (04.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
02080394.6 19 December 2002 (19.12.2002) EP
- (71) Applicant (for all designated States except US): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): TIEKE, Benno [DE/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). VAN DER VLEUTEN, Maarten [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (74) Agent: DEGUELLE, Wilhelmus, H., G.; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,

[Continued on next page]

(54) Title: METHOD AND RECORDING DEVICE FOR RECORDING MARKS IN AN INFORMATION LAYER OF AN OPTICAL RECORD CARRIER



(57) Abstract: The invention relates to a method of recording marks in an information layer (301) of a record carrier (30) in which method a 2t write strategy is used. The invention further relates to a recording device capable of carrying out the method. This invention provides a solution to the problem of how to record marks on the information layer when no write parameter settings specifically tuned for the record carrier to be recorded are available for use in the 2T write strategy.

WO 2004/057582 A3



*RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:  
10 September 2004

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

Published:

- with international search report

# INTERNATIONAL SEARCH REPORT

Intern Application No  
PCT/IB 03/05739

**A. CLASSIFICATION OF SUBJECT MATTER**  
**IPC 7 G11B7/00 G11B7/125**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
**IPC 7 G11B**

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 2003, no. 01, 14 January 2003 (2003-01-14) & JP 2002 264506 A (MITSUBISHI CHEMICALS CORP), 18 September 2002 (2002-09-18) abstract; figure 1 -----	1,4,7,10
Y	US 6 411 579 B2 (HORIE MICHIKAZU ET AL) 25 June 2002 (2002-06-25) column 15, line 34 - column 27, line 36 column 34, line 50 - column 43, line 27; figures 12-28 -----	2,3,9
Y	US 6 411 579 B2 (HORIE MICHIKAZU ET AL) 25 June 2002 (2002-06-25) column 15, line 34 - column 27, line 36 column 34, line 50 - column 43, line 27; figures 12-28 -----	2,3,9
E	EP 1 385 157 A (YAMAHA CORP) 28 January 2004 (2004-01-28) paragraphs [0013] - [0021]; figures 1,3 ----- -/-	1,2,4,7, 9,10

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "T" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

10 March 2004

Date of mailing of the international search report

07.07.04

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Hermann, R

## INTERNATIONAL SEARCH REPORT

Inte	pplication No
PCT/IB 03/05739	

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	EP 1 361 571 A (RICOH KK) 12 November 2003 (2003-11-12) paragraphs [0030] - [0068], [0106] - [0119]; figures 1,2,7,23 -----	1,2,4,7, 9,10
P,X	WO 03/069602 A (HORIE MICHIKAZU ; KUBO MASAE (JP); MIZUNO MASAAKI (JP); OHNO TAKASHI) 21 August 2003 (2003-08-21) abstract; figures 3,5,6,16,17 -----	1-7,9,10
A	US 5 732 062 A (AOKI IKUO ET AL) 24 March 1998 (1998-03-24) column 33, line 63 - column 41, line 16; figures 31-35 -----	1-7,9,10

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB 03/05739

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-7, 9 (when dependent on claim 7) and 10 (when dependent on claim 7)

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1 - 7, 9 (when dependent on claim 7), and 10 (when dependent on claim 7)

---

2. claims: 8 and 9 - 10 (when dependent on claim 8)

---

# INTERNATIONAL SEARCH REPORT

Information on patent family members

Intern: Application No

PCT/IB 03/05739

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
JP 2002264506	A	18-09-2002	NONE		
US 6411579	B2	20-12-2001	AU	4612500 A	12-12-2000
			CN	1347553 T	01-05-2002
			EP	1182649 A1	27-02-2002
			EP	1376563 A2	02-01-2004
			EP	1372146 A2	17-12-2003
			WO	0072316 A1	30-11-2000
			JP	2001331936 A	30-11-2001
			US	2002159366 A1	31-10-2002
EP 1385157	A	28-01-2004	EP	1385157 A2	28-01-2004
			JP	2004111020 A	08-04-2004
EP 1361571	A	12-11-2003	JP	2003331422 A	21-11-2003
			EP	1361571 A1	12-11-2003
			US	2004017755 A1	29-01-2004
WO 03069602	A	21-08-2003	WO	03069602 A1	21-08-2003
US 5732062	A	24-03-1998	JP	3264805 B2	11-03-2002
			JP	9115141 A	02-05-1997
			JP	9134525 A	20-05-1997
			JP	9305971 A	28-11-1997